SD11
A571
#374

United States
Department of
Agriculture

Forest Service

North Central
Research
Station

Research Note **NC-374**

Pulpwood Production in the Lake States, 1997

Ronald J. Piva[1]

ROCKY MOUNTAIN RESEARCH STATION LIBRARY
FORT COLLINS CENTER
240 W PROSPECT RD
FORT COLLINS, CO 80526-2098

ABSTRACT.—Pulpwood production in the Lake States in 1997 remained at the 1996 level of 9.5 million cords. Michigan, Minnesota, and Wisconsin pulpwood production is shown by county and species group.

KEY WORDS: Residue, roundwood, whole tree chips, Minnesota, Michigan, Wisconsin.

Pulpwood production[2] in the Lake States—Michigan, Minnesota, and Wisconsin—remained at 9.5 million cords in 1997, only 34 thousand cords less than in 1996[3]. Michigan produced 3.3 million cords, Wisconsin produced 3.2 million cords, and Minnesota produced 3.0 million cords in 1997 (table 1). Ninety-two percent of the pulpwood produced came from roundwood (including chips from roundwood); the remainder came from mill residues such as slabs, edgings, veneer cores, and chips from these materials (fig. 1).

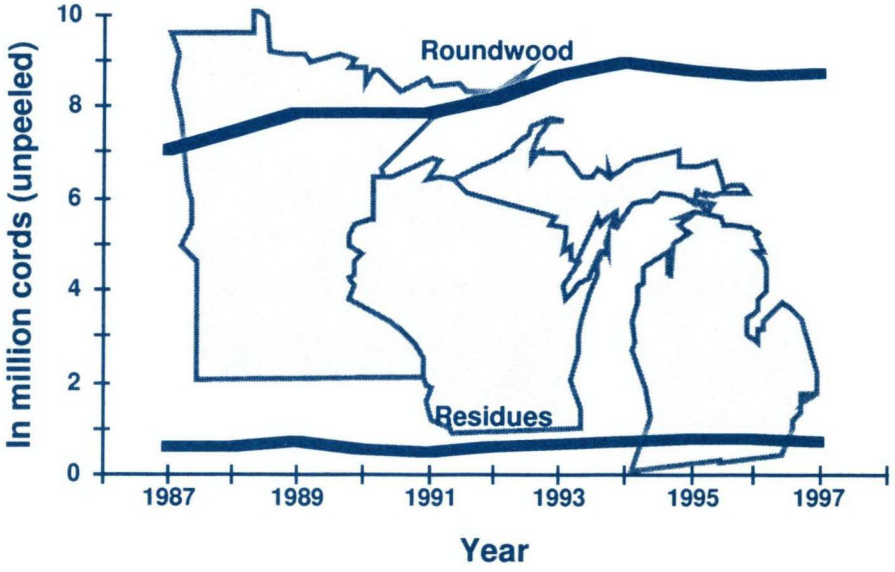

Figure 1.—*Pulpwood production, Lake States, 1987-1997.*

ROUNDWOOD

Roundwood production totaled 8.8 million cords; Michigan produced 3.1 million cords, Minnesota produced 2.9 million cords, and Wisconsin produced 2.8 million cords. Seventy-two percent of the harvested species were hardwoods. Aspen accounted for 47 percent of the total roundwood harvested (4.1 million cords). The other major species groups were maple (1.4 million cords), pine (1.2 million cords), spruce-fir (0.6 million cords), and birch (0.6 million cords) (fig. 2).

---

[1] *RONALD J. PIVA is a Forester with the North Central Research Station in St. Paul, Minnesota.*

[2] *Includes logs, bolts, and wood residue used in manufacturing particleboard, engineered wood products, oriented strand board, hardboard, and medium density fiberboard.*

[3] *Previous year's data are from "Pulpwood Production in the Lake States, 1996," Research Note NC-372, 1997.*

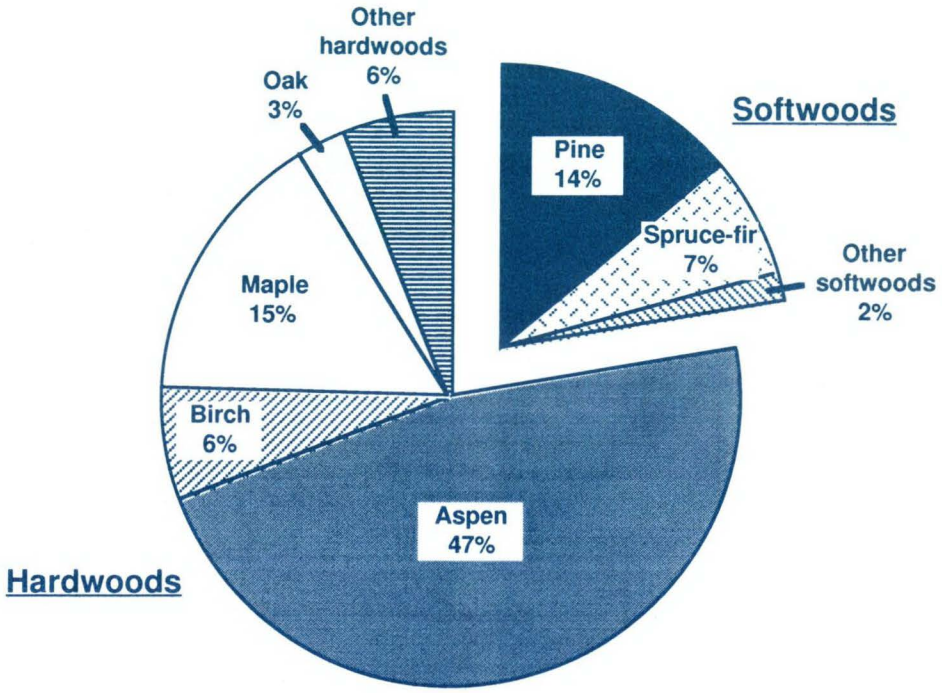

Figure 2.—*Distribution of roundwood production by major species group, Lake States, 1997.*

Counties harvesting more than 150 thousand cords each were Houghton, Iron, Marquette, and Ontonagon in Michigan; Beltrami, Cass, Itasca, Koochiching, and St. Louis in Minnesota; and Bayfield, Douglas, Sawyer, and Vilas in Wisconsin. These 13 counties supplied 37 percent of the roundwood pulpwood produced in the Lake States in 1997.

In 1997, whole tree chips (WTC) supplied 728 thousand cords, a 12-percent increase from 1996. Michigan's production of WTC increased by 6 percent to 467 thousand cords, Wisconsin's production increased by 20 percent to 160 thousand cords, and Minnesota's production rose by 32 percent to 101 thousand cords. WTC in 1997 contained 43 percent aspen, 43 percent other hardwoods, and 14 percent softwoods.

MILL RESIDUES

Pulpwood production from mill residues amounted to 735 thousand cords in 1997, a drop of 9 percent from 1996. Mill residue production increased by 5 percent in Wisconsin, decreased by 11 percent in Michigan, and decreased by 38 percent in Minnesota. Hardwood residue production decreased by 4 percent, and softwood residue production decreased by 24 percent. Production from softwood and hardwood residues by State was:

State	Softwood	Hardwood
	(Thousand standard cords, unpeeled equivalents)	
Michigan	39	208
Minnesota	38	66
Wisconsin	96	287

Table 1. -- Lake States pulpwood production from roundwood by State, Forest Survey Unit, county, and species group, 1997 [1]

(In standard cords, unpeeled)

MINNESOTA

Forest Survey Unit and county [2]	All species	Species group										
		N. white-cedar	Balsam fir	Hemlock	Pine	Spruce	Tamarack	Aspen	Birch	Maple	Oak	Other hardwoods
Aspen-Birch												
Carlton	42,186	--	1,122	--	1,638	2,376	32	26,292	7,953	1,319	276	1,175
Cook	53,414	--	2,492	--	3,037	6,490	319	39,034	2,043	--	--	--
Koochiching	337,022	--	31,276	--	8,399	41,294	5,713	221,850	2,904	156	--	25,430
Lake	93,158	--	11,589	--	4,251	18,219	990	34,641	12,219	1,405	--	9,843
St. Louis	520,144	--	59,406	--	17,319	54,491	5,296	327,578	35,181	6,218	10	14,645
Total	1,045,923	--	105,885	--	34,644	122,869	12,350	649,397	60,299	9,099	287	51,092
Northern Pine												
Aitkin	98,683	--	4,874	--	2,323	2,239	1,266	81,099	5,794	108	--	980
Becker	82,974	--	730	--	404	9	--	78,682	2,154	--	--	996
Beltrami	209,566	--	5,053	--	5,565	3,721	1,076	164,648	9,661	540	--	19,302
Cass	212,375	--	6,019	--	15,080	3,294	1,183	171,118	10,753	--	--	4,927
Clearwater	92,017	--	2,121	--	1,296	1,405	56	79,275	2,786	--	--	5,078
Crow Wing	90,740	--	871	--	9,907	848	50	74,661	3,334	--	--	1,070
Hubbard	143,903	--	567	--	3,281	407	120	129,220	7,099	48	--	3,162
Itasca	393,028	--	54,440	--	12,173	21,364	1,689	273,602	12,808	236	--	16,719
Lake of the Woods	114,396	--	3,608	--	6,060	7,409	1,217	87,937	33	--	--	8,131
Mahnomen	13,789	--	--	--	--	60	--	13,646	14	--	--	69
Roseau	25,181	--	336	--	2,816	2,146	1,371	15,850	8	--	--	2,653
Wadena	24,410	--	--	--	7,047	--	29	17,168	95	--	--	71
Total	1,501,063	--	78,621	--	65,951	42,902	8,056	1,186,905	54,539	932	--	63,157
Central Hardwood												
Anoka	5,590	--	--	--	3,887	104	--	1,079	259	102	109	50
Benton	7,420	--	7,231	--	73	--	--	116	--	--	--	--
Chisago	3,571	--	--	--	1,996	159	--	64	338	414	276	322
Douglas	10	--	--	--	--	--	--	10	--	--	--	--
Goodhue	531	--	--	--	456	--	--	75	--	--	--	--
Isanti	6,015	--	--	--	5,160	219	--	623	--	--	13	--
Kanabec	15,674	--	--	--	695	--	--	14,646	276	44	--	13
Mille Lacs	56,402	--	--	--	868	11	--	55,421	17	82	--	2
Morrison	24,154	--	--	--	3,911	682	731	18,659	125	--	--	45
Olmsted	151	--	--	--	151	--	--	--	--	--	--	--
Otter Tail	28,369	--	--	--	25	--	--	27,831	84	--	--	429
Pine	119,939	--	2,692	--	5,590	1,333	--	98,269	6,544	4,039	279	1,191
Sherburne	1,653	--	411	--	1,047	50	--	101	24	13	--	6
Stearns	1,470	--	--	--	--	--	--	1,470	--	--	--	--
Todd	3,224	--	--	--	68	--	--	3,132	--	--	--	24
Wabasha	960	--	--	--	621	--	--	339	--	--	--	--
Washington	265	--	--	--	--	--	--	--	202	41	--	21
Winona	1,243	--	--	--	1,050	142	--	13	14	21	--	5
Total	276,641	--	10,335	--	25,599	2,701	731	221,847	7,883	4,757	677	2,110
Prairie												
Kittson	9,794	--	--	--	--	--	--	9,619	--	--	--	175
Marshall	17,371	--	--	--	--	--	--	16,128	2	--	--	1,242
Norman	8,644	--	--	--	--	--	--	8,639	--	--	--	5
Pennington	5,361	--	--	--	--	--	--	5,277	--	--	--	84
Polk	7,191	--	--	--	--	--	--	7,012	--	--	--	179
Red Lake	3,434	--	--	--	--	--	--	3,392	28	--	--	15
Total	51,796	--	--	--	--	--	--	50,067	30	--	--	1,699
State total	2,875,422	--	194,841	--	126,195	168,472	21,137	2,108,216	122,750	14,788	964	118,060

[1] Table may not add due to rounding.

(Table 1 continued on next page)

[2] Includes only those counties that supplied pulpwood in 1997.

(Table 1 continued)

MICHIGAN

Forest Survey Unit and county	All species	Species group: N. white-cedar	Balsam fir	Hemlock	Pine	Spruce	Tamarack	Aspen	Birch	Maple	Oak	Other hardwoods
Eastern Upper Peninsula												
Alger	111,445	530	3,255	2,783	12,960	1,553	355	12,638	9,793	57,220	612	9,747
Chippewa	95,528	577	4,008	2,686	29,805	2,713	369	24,259	5,897	21,942	113	3,159
Delta	91,489	602	3,876	3,584	18,483	2,020	403	22,836	6,726	26,806	184	5,969
Luce	69,239	94	1,013	5,187	16,723	1,355	63	6,247	4,726	28,903	284	4,644
Mackinac	89,355	296	3,196	2,153	10,258	2,379	160	28,547	9,272	28,001	174	4,920
Menominee	65,059	157	1,457	728	2,405	3,060	105	16,021	8,385	26,259	397	6,088
Schoolcraft	110,878	482	3,442	2,784	40,328	4,694	323	14,206	6,593	32,003	208	5,813
Total	632,994	2,739	20,246	19,905	130,962	17,774	1,777	124,753	51,391	221,133	1,972	40,340
Western Upper Peninsula												
Baraga	125,184	345	3,222	10,149	14,422	3,375	287	20,228	12,679	48,869	758	10,851
Dickinson	113,541	451	2,915	2,430	9,916	3,375	368	53,963	8,459	21,220	545	9,899
Gogebic	92,087	4	1,120	4,768	602	805	70	16,019	6,564	49,398	2,110	10,628
Houghton	186,406	132	2,785	4,207	7,722	3,577	269	51,343	11,230	78,152	1,293	25,697
Iron	175,001	758	8,526	4,207	16,982	6,900	972	53,591	12,206	55,024	849	14,989
Keweenaw	47,494	65	390	1,975	655	143	43	6,353	5,338	26,969	385	5,177
Marquette	290,741	1,469	9,254	20,875	44,076	7,564	1,561	67,705	24,276	92,432	625	20,902
Ontonagon	162,049	18	1,091	1,938	2,604	1,495	51	69,935	6,196	57,813	1,271	19,637
Total	1,192,502	3,241	29,303	50,550	96,978	27,232	3,622	339,138	86,949	429,877	7,836	117,775
Northern Lower Peninsula												
Alcona	30,868	--	--	--	3,320	--	--	16,365	2,700	6,705	116	1,663
Alpena	14,712	--	124	--	252	164	--	9,244	1,048	3,783	--	98
Antrim	13,051	--	--	--	1,037	--	--	4,749	706	3,860	1,118	1,580
Arenac	5,071	--	--	--	302	--	--	3,874	379	508	--	8
Bay	2,641	--	--	--	8	--	--	2,124	82	425	--	1
Benzie	31,381	--	--	--	2,328	--	--	9,008	814	9,135	5,968	4,130
Charlevoix	4,751	--	--	--	804	--	--	1,744	160	931	647	464
Cheboygan	43,144	39	591	--	9,347	281	--	20,812	1,665	9,615	219	574
Clare	54,969	--	--	--	3,908	--	--	26,821	1,829	11,319	8,588	2,504
Crawford	48,748	--	--	--	24,481	--	--	16,631	609	5,024	1,332	673
Emmet	31,366	7	54	--	3,043	13	--	10,375	2,145	14,874	125	727
Gladwin	52,281	--	--	--	3,135	--	--	24,721	3,097	12,604	5,540	3,183
Grand Traverse	22,922	--	--	--	5,314	--	--	9,082	573	3,927	2,339	1,688
Iosco	17,615	--	--	--	9,678	--	--	5,414	824	1,252	131	317
Isabella	28,729	--	--	--	284	--	--	15,946	1,258	7,931	1,031	2,278
Kalkaska	54,277	34	206	178	17,142	76	23	19,283	1,455	11,794	1,134	2,951
Lake	70,112	--	--	--	1,907	--	--	27,046	1,336	14,905	21,341	3,575
Leelanau	1,893	--	--	--	504	--	--	303	38	744	--	303
Manistee	46,035	--	--	--	1,742	--	--	18,585	1,312	11,987	9,159	3,251
Mason	13,889	--	--	--	--	--	--	5,198	347	5,049	1,581	1,714
Mecosta	54,309	--	--	--	1,689	--	--	33,834	972	13,970	1,372	2,472
Midland	23,390	--	--	--	41	--	--	9,795	985	5,600	5,194	1,775
Missaukee	48,985	--	--	--	5,269	--	--	21,810	1,602	12,977	4,171	3,156
Montmorency	48,338	34	371	--	8,543	196	--	27,210	1,531	6,535	2,158	1,761
Newaygo	66,093	--	--	--	162	--	--	33,275	1,063	16,150	12,571	2,872
Oceana	18,392	--	--	--	--	--	--	9,583	304	4,456	3,260	789
Ogemaw	20,279	--	--	--	7,347	--	--	6,539	279	2,621	3,181	312
Osceola	80,730	--	--	--	907	--	--	48,583	1,734	20,663	4,393	4,450
Oscoda	30,321	--	--	--	8,088	--	--	15,409	1,384	3,731	1,157	553
Otsego	67,939	--	--	--	23,054	--	--	25,420	3,141	11,234	2,349	2,741
Presque Isle	43,043	7	441	--	4,472	440	--	20,194	2,572	13,940	470	507
Roscommon	47,652	69	553	--	10,537	132	--	22,781	1,188	7,684	3,779	929
Wexford	39,963	--	--	--	4,242	--	--	17,978	980	10,506	3,627	2,631
Total	1,177,890	190	2,341	178	162,884	1,302	23	539,736	40,112	266,439	108,051	56,635
Southern Lower Peninsula												
Allegan	15,945	--	--	--	--	--	--	3,955	22	3,448	8,442	78
Barry	3,920	--	--	--	--	--	--	1,304	22	932	1,584	77
Calhoun	1,649	--	--	--	--	--	--	370	--	352	926	--
Cass	2,271	--	--	--	--	--	--	509	--	485	1,277	--
Clinton	1,073	--	--	--	878	--	--	100	24	64	--	7
Gratiot	8,412	--	--	--	--	--	--	4,808	240	2,564	400	400
Huron	1,647	--	--	--	--	--	--	935	205	364	--	143
Ionia	641	--	--	--	--	--	--	144	--	137	361	--
Jackson	1,100	--	--	--	--	--	--	442	14	218	376	50
Kalamazoo	1,223	--	--	--	--	--	--	291	4	269	652	6
Kent	14,241	--	--	--	--	--	--	3,949	84	2,322	7,675	212
Lapeer	100	--	--	--	22	--	--	78	--	--	--	--
Monroe	922	--	--	--	--	--	--	323	110	351	--	138
Montcalm	16,205	--	--	--	--	--	--	9,122	441	4,931	976	735
Muskegon	14,353	--	--	--	--	--	--	5,985	140	3,371	4,520	336
Ottawa	5,611	--	--	--	--	--	--	2,932	86	1,574	716	303
Sanilac	1,563	--	--	--	165	--	--	692	103	591	--	12
St Joseph	1,404	--	--	--	--	--	--	315	--	300	790	--
Tuscola	1,585	--	--	--	550	--	--	1,025	--	10	--	--
Van Buren	1,541	--	--	--	--	--	--	346	--	329	866	--
Total	95,405	--	--	--	1,615	--	--	37,626	1,495	22,610	29,562	2,497
State total	3,098,792	6,170	51,889	70,633	392,439	46,308	5,422	1,041,253	179,946	940,059	147,421	217,250

(Table 1 continued on next page)

(Table 1 continued)

WISCONSIN

Forest Survey Unit and county	All species	Species group										
		N. white-cedar	Balsam fir	Hemlock	Pine	Spruce	Tamarack	Aspen	Birch	Maple	Oak	Other hardwoods
Northeastern												
Florence	51,793	14	1,084	5,209	7,603	797	114	16,705	4,840	11,159	487	3,784
Forest	121,110	--	4,153	1,714	5,856	2,948	85	35,111	14,458	38,852	3,080	14,851
Langlade	126,500	--	7,333	994	4,124	2,529	582	44,303	19,457	30,730	3,403	13,045
Lincoln	125,302	--	2,992	758	9,271	1,008	232	53,574	12,847	21,457	4,811	18,351
Marinette	102,599	--	1,414	232	41,051	468	387	32,160	7,442	12,934	1,595	4,916
Menominee	75,860	448	2,799	9,071	14,925	1,127	300	23,888	5,463	10,874	560	6,405
Oconto	59,718	--	1,550	282	10,852	2,536	12	29,515	3,964	7,378	250	3,379
Oneida	133,914	--	6,310	375	22,215	4,727	609	42,787	17,018	16,885	5,495	17,492
Shawano	23,687	--	106	983	3,506	61	82	13,291	1,756	2,129	205	1,568
Vilas	159,890	--	4,517	752	53,230	1,629	343	36,233	19,005	25,615	4,501	14,065
Total	980,373	462	32,257	20,369	172,632	17,832	2,746	327,569	106,251	178,011	24,386	97,857
Northwestern												
Ashland	72,784	--	5,177	218	3,056	7,334	433	31,642	6,197	13,032	1,377	4,315
Barron	16,812	--	11	71	1,610	53	26	9,907	1,851	2,127	468	687
Bayfield	177,236	--	4,927	82	51,960	2,403	559	76,121	16,669	13,327	4,616	6,573
Burnett	64,324	--	259	27	31,655	303	11	25,217	2,653	2,457	1,017	723
Douglas	185,356	--	12,514	14	61,818	2,893	104	67,814	22,308	13,472	1,210	3,210
Iron	108,616	--	4,071	391	2,153	1,975	168	59,458	8,012	23,095	1,577	7,715
Polk	24,861	--	66	--	8,021	159	--	11,770	1,279	1,808	1,020	737
Price	116,409	--	7,338	978	10,542	1,725	2,416	37,819	15,180	23,153	5,553	11,706
Rusk	71,432	--	644	73	1,360	527	360	36,933	8,195	14,213	2,215	6,911
Sawyer	157,092	--	5,815	384	8,355	4,012	528	60,356	26,075	36,397	5,043	10,125
Taylor	64,411	--	2,520	885	1,514	513	503	24,831	6,764	16,473	1,788	8,620
Washburn	74,653	--	1,142	--	23,010	194	36	38,972	3,938	5,340	650	1,368
Total	1,133,985	--	44,484	3,124	205,057	22,090	5,145	480,840	119,120	164,896	26,535	62,692
Central												
Adams	69,881	--	11	--	55,794	100	79	5,239	732	3,422	3,820	681
Chippewa	25,690	--	22	89	2,926	58	--	14,783	2,278	3,125	673	1,734
Clark	92,225	--	--	--	10,767	119	16	45,940	7,465	14,261	9,611	4,047
Eau Claire	27,899	--	--	--	13,210	47	17	6,957	1,507	2,330	3,007	824
Jackson	66,750	--	23	28	28,143	145	15	15,035	2,869	5,651	12,657	2,185
Juneau	63,938	--	--	--	45,313	--	--	2,611	751	2,084	12,577	603
Marathon	55,617	--	235	1,840	7,896	957	11	21,711	4,009	10,698	1,915	6,343
Marquette	17,958	--	--	--	15,431	10	22	310	277	503	1,169	236
Monroe	30,237	--	--	--	18,258	--	39	3,897	820	2,266	3,923	1,036
Portage	36,342	--	261	221	23,211	69	23	7,393	897	1,844	1,537	884
Waupaca	18,447	--	--	11	6,346	125	--	4,955	1,350	2,180	1,567	1,913
Waushara	27,498	--	--	11	25,648	73	--	582	163	121	749	150
Wood	44,181	--	28	149	16,582	777	--	19,481	1,116	2,510	2,861	677
Total	576,664	--	581	2,348	269,523	2,481	221	148,895	24,235	50,995	56,066	21,318
Southwestern												
Buffalo	5,499	--	--	--	1,041	--	--	3,746	188	306	92	127
Crawford	175	--	--	--	--	--	--	8	10	15	133	7
Dunn	16,057	--	14	--	9,442	76	--	3,390	807	1,375	513	440
Grant	7,836	--	11	--	7,409	378	--	--	8	20	2	7
Iowa	18,099	--	--	--	3,282	16	--	2,541	2,378	3,398	2,519	3,965
La Crosse	2,421	--	--	--	1,810	9	--	398	33	47	87	35
Pepin	1,018	--	--	--	122	--	--	577	72	66	25	155
Pierce	546	--	--	--	374	38	--	52	36	19	11	16
Richland	1,574	--	--	--	871	3	--	270	49	78	147	154
Sauk	6,905	--	14	7	5,723	--	--	277	87	135	520	142
St Croix	9,166	--	69	9	3,340	282	--	2,756	1,180	1,029	219	284
Trempealeau	9,903	--	--	--	4,919	196	--	3,195	293	457	476	368
Vernon	1,140	--	--	--	605	63	--	239	20	35	32	147
Total	80,340	--	107	17	38,939	1,060	--	17,448	5,160	6,983	4,778	5,846
Southeastern												
Brown	1,529	--	14	--	1,228	--	--	243	1	3	--	40
Calumet	9	--	--	--	--	--	--	--	2	3	2	2
Columbia	11,433	--	--	--	8,877	116	--	676	128	205	1,342	90
Dane	1,485	--	--	--	729	13	--	52	78	301	241	72
Dodge	39	--	--	11	--	--	--	9	--	--	13	5
Door	6,572	--	--	15	282	97	--	2,519	868	1,874	89	829
Fond Du Lac	1,106	--	--	--	402	68	--	282	90	90	21	152
Green	198	--	--	--	198	--	--	--	--	--	--	--
Green Lake	1,497	--	--	--	880	--	--	289	53	45	62	167
Jefferson	1,947	--	80	14	1,144	61	--	239	63	151	31	166
Kenosha	14	--	--	14	--	--	--	--	--	--	--	--
Kewaunee	375	--	--	--	183	--	--	158	16	4	--	14
Manitowoc	2,392	--	17	--	365	--	--	232	442	1,038	13	287
Outagamie	1,470	--	--	--	400	--	--	507	200	102	65	194
Ozaukee	43	--	--	--	33	--	--	--	5	--	--	4
Racine	188	--	--	--	113	75	--	--	--	--	--	--
Rock	521	--	--	--	501	--	--	--	5	10	2	2
Sheboygan	483	--	--	--	393	60	--	14	2	3	2	8
Walworth	2,630	--	--	--	2,127	32	--	239	28	36	21	147
Washington	1,900	--	--	--	1,734	96	--	--	14	16	27	12
Waukesha	3,304	--	15	--	2,811	202	--	--	13	62	190	12
Winnebago	434	--	--	--	424	--	--	--	5	--	--	4
Total	39,567	--	125	53	22,826	820	--	5,459	2,013	3,945	2,121	2,204
State total	2,810,929	462	77,555	25,911	708,978	44,284	8,112	980,212	256,780	404,829	113,886	189,920
Lake State total	8,785,143	6,632	324,285	96,544	1,227,612	259,064	34,671	4,129,681	559,476	1,359,676	262,271	525,230

☆ U.S. GOVERNMENT PRINTING OFFICE 1998—756–305